



Understanding the Drought

Living Well with Less Water
Water Forum
July 24, 2015

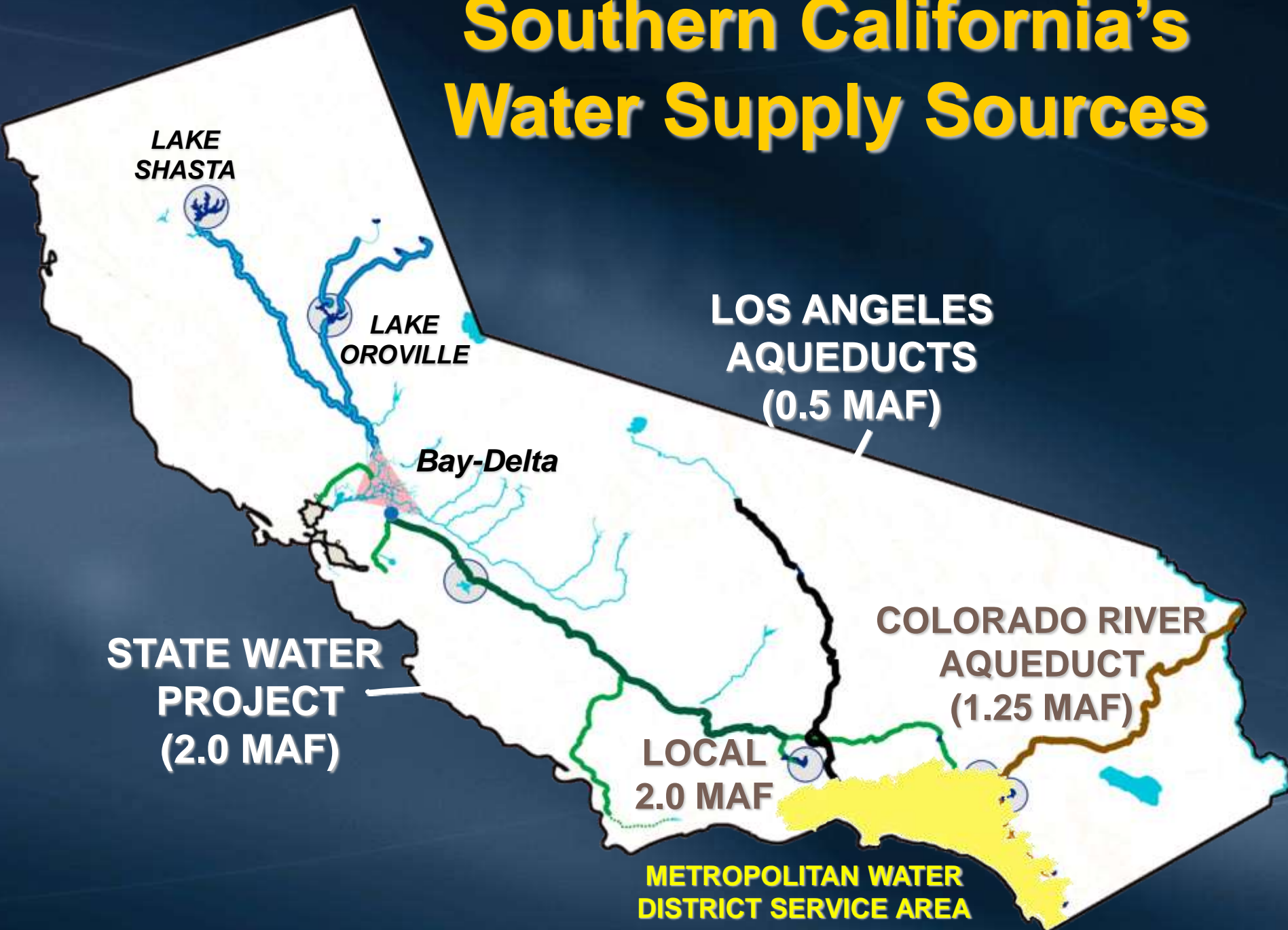
Jeff Kightlinger, General Manager
The Metropolitan Water District
of Southern California

Metropolitan Water District of Southern California

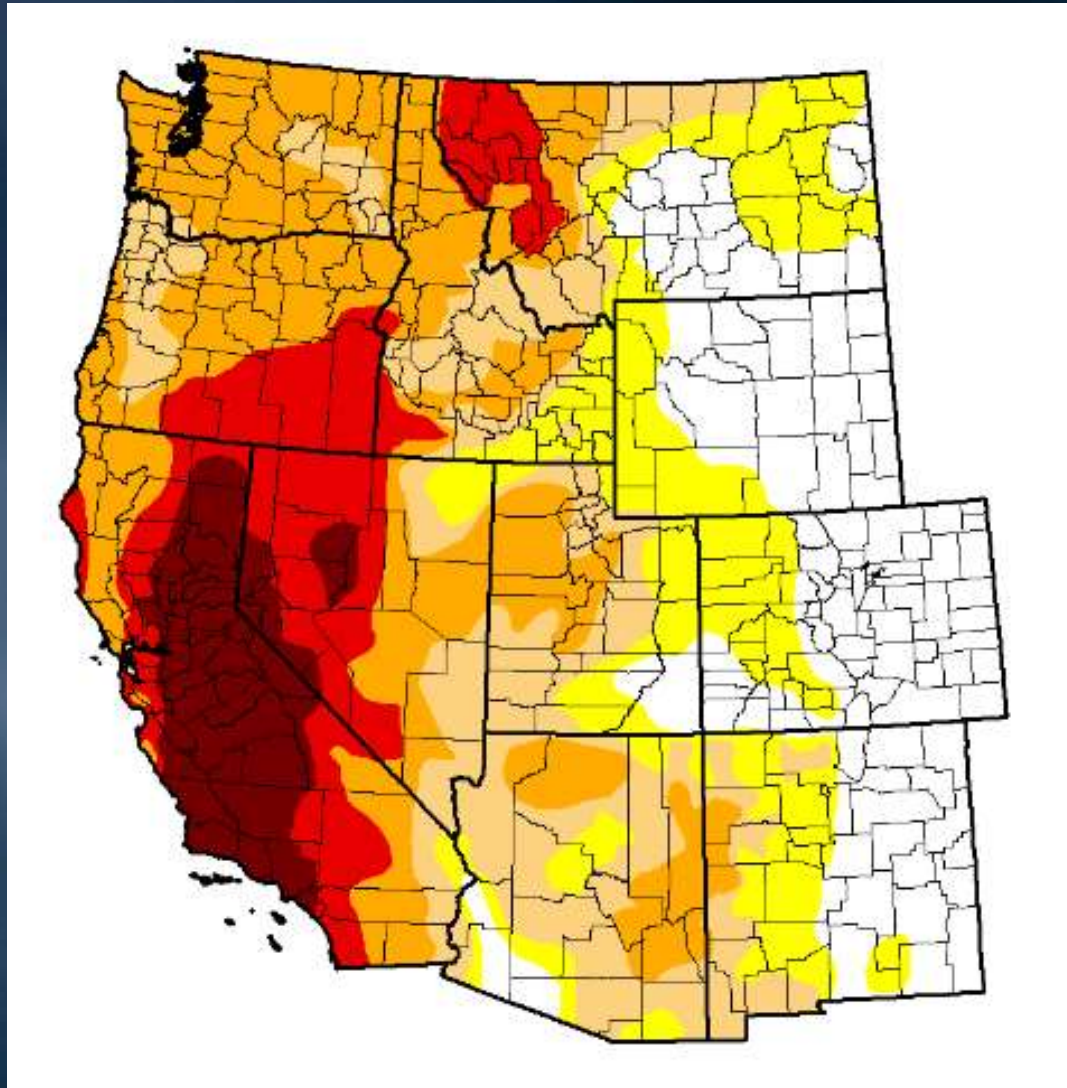


- Regional water wholesaler to 6 counties
 - 5,200 square mile service area
- ~19 million residents
- Regional economy: \$1 trillion
- Provides about ½ of retail demand

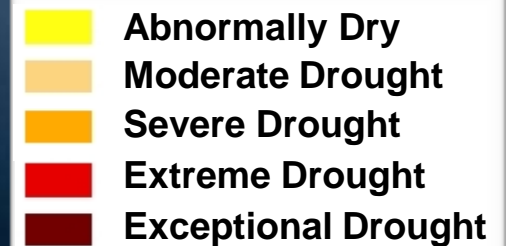
Southern California's Water Supply Sources



U.S. Drought Monitor – West (July 7th)



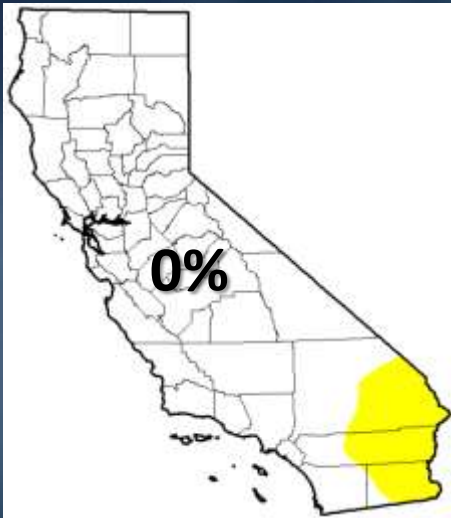
95%
Severe or Higher
in California



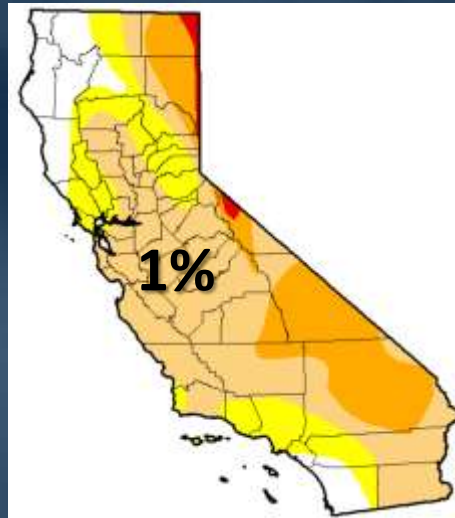
Drought Conditions Leading to 2015

Extreme and Exceptional Intensity Percentage

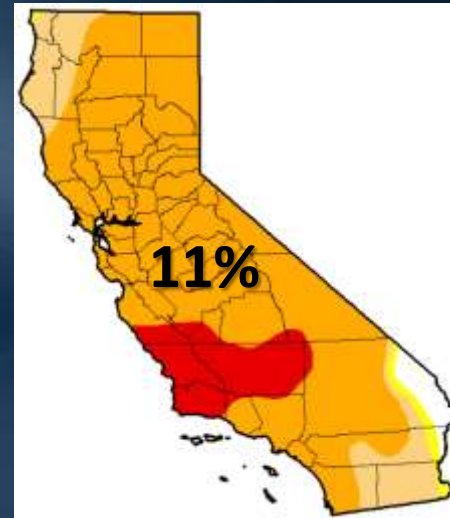
OCT 2011



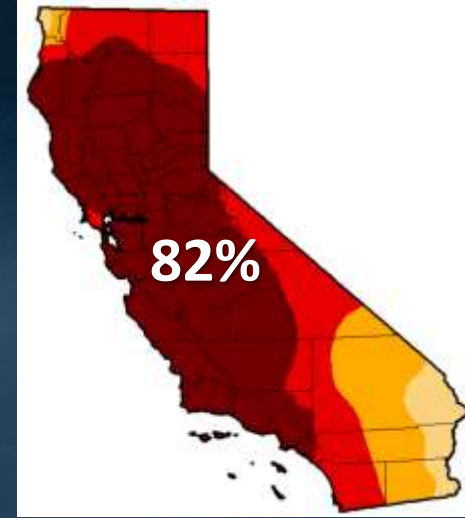
OCT 2012



OCT 2013



OCT 2014



None

Abnormal

Moderate

Severe

Extreme

Exceptional

80%

2011 SWP
Allocation

65%

2012 SWP
Allocation

35%

2013 SWP
Allocation

5%

2014 SWP
Allocation

January 18, 2013





January 2014



January 2015

Unprecedented Conditions



- WY 2012- 2013
Below average runoff
- CY 2013
Driest on record
- Jan 2014
Lowest snowpack
- WY 2014
4th lowest runoff
- 2014 SWP Allocation
5% - lowest
- 2014 Temps
Record high temperatures
- 2015 April 1 Snowpack
Record low

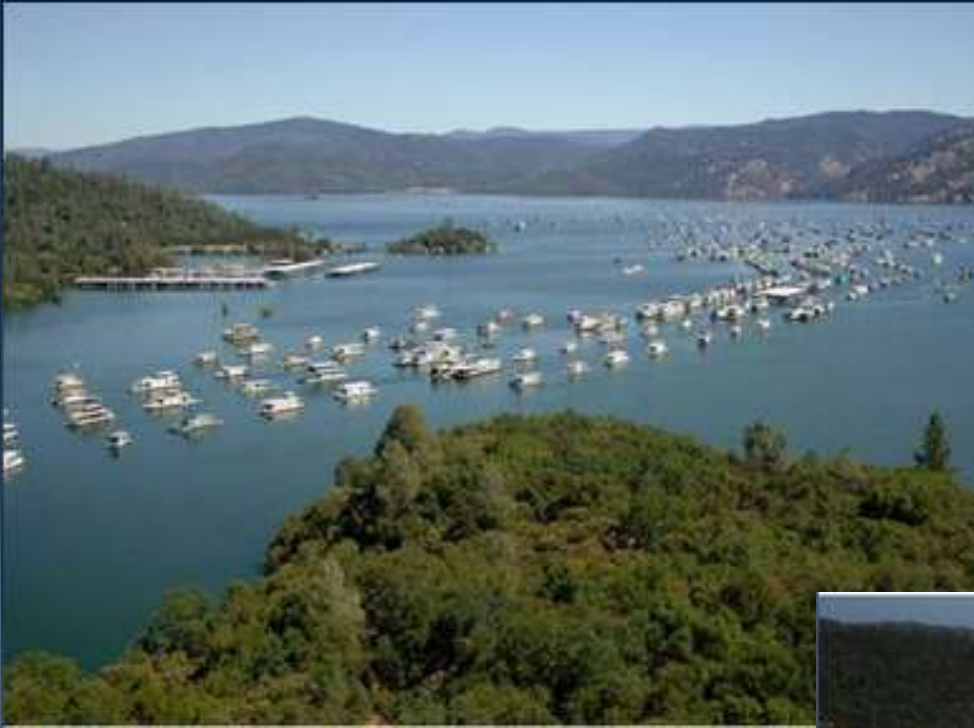
Lake Oroville

Green Bridge



Lake Oroville

Bidwell Marina





Lake Oroville

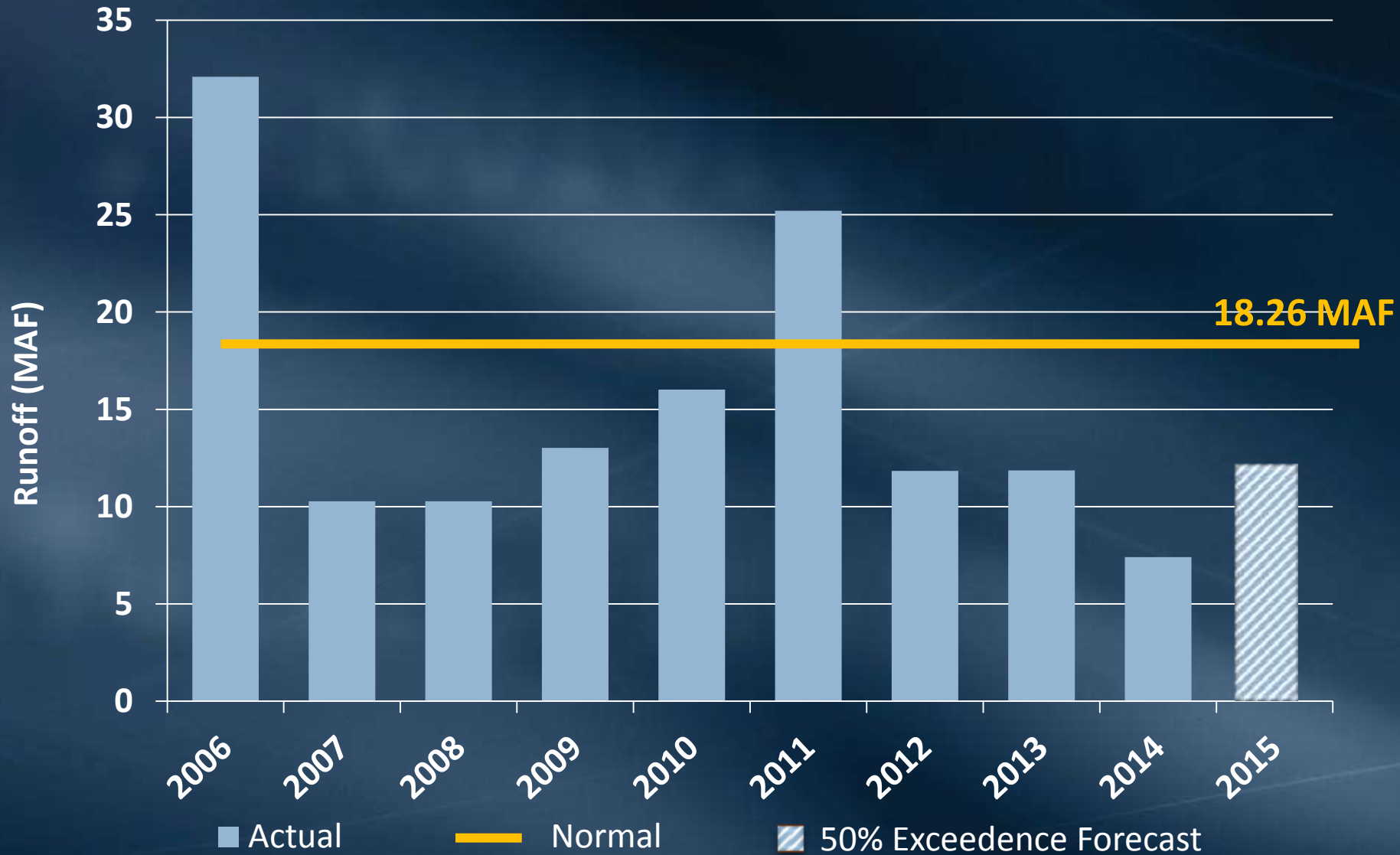
Enterprise
Bridge



How to tell if you live in a drought zone ...

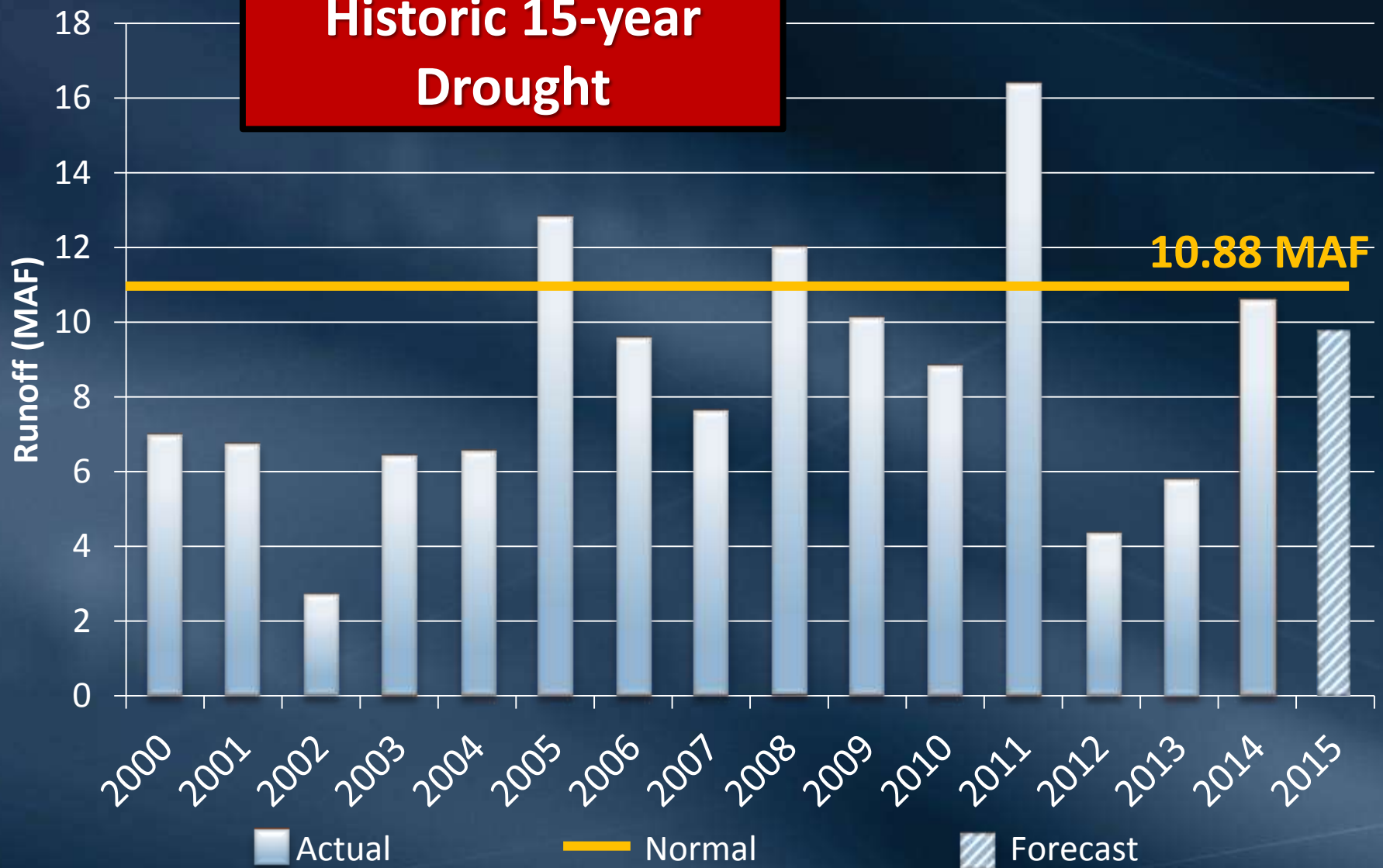


Northern California Runoff



Upper Colorado River Basin Runoff

**Historic 15-year
Drought**



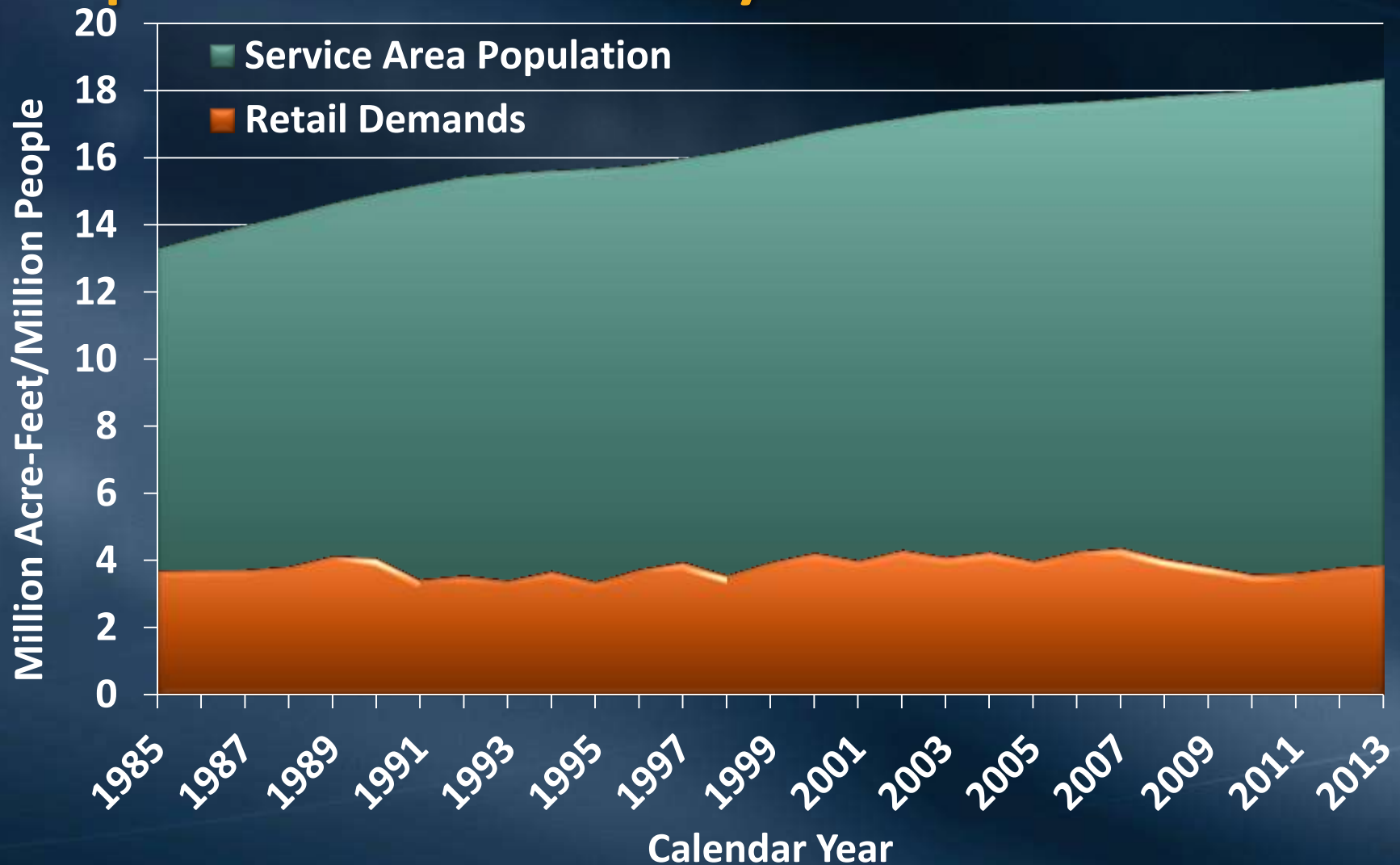
Lake Mead



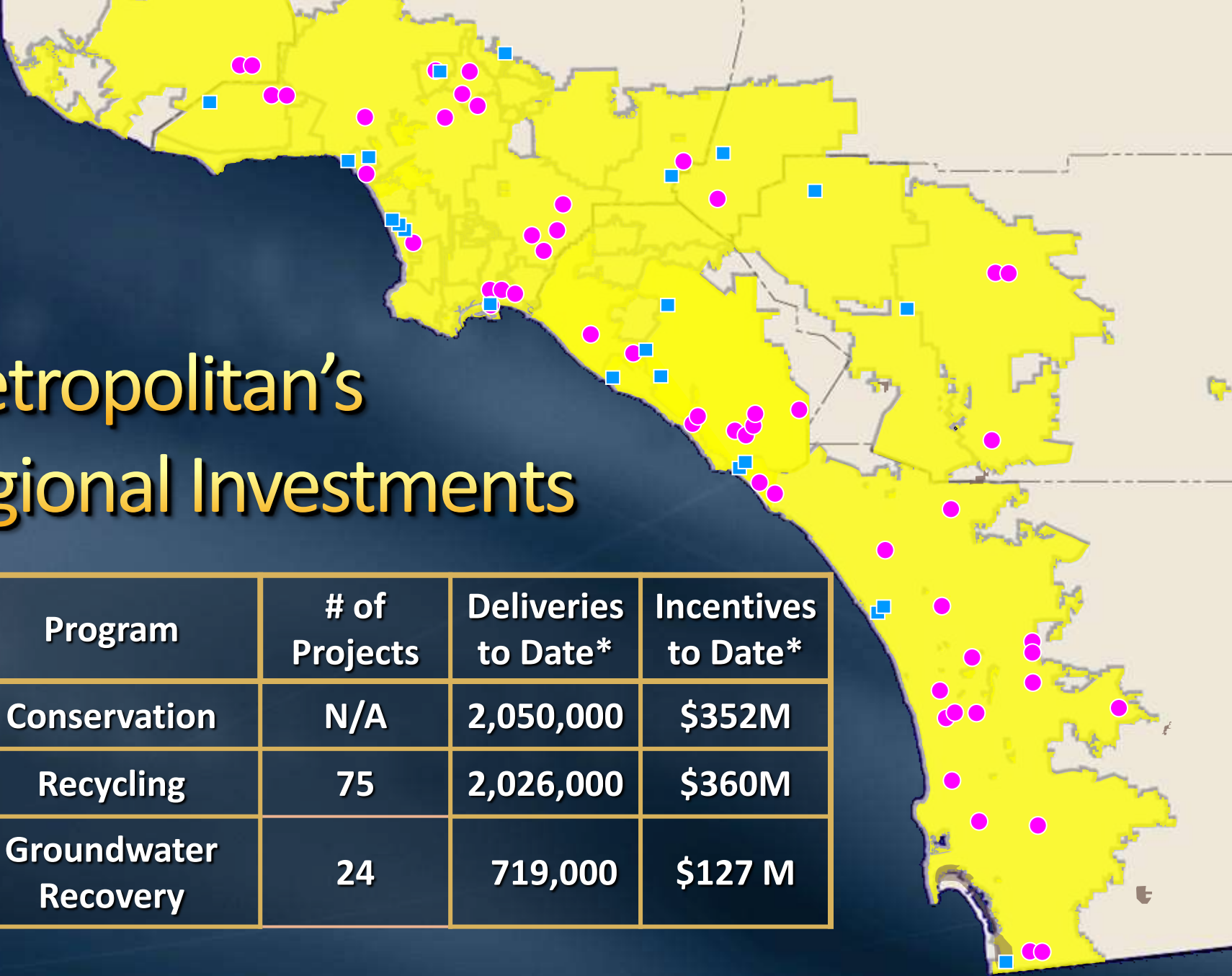
National Geographic

<http://news.nationalgeographic.com/news/2015/02/150212-megadrought-southwest-water-climate-environment/>

Demands Remain Flat Even As Population Grew By 5 Million



Metropolitan's Regional Investments

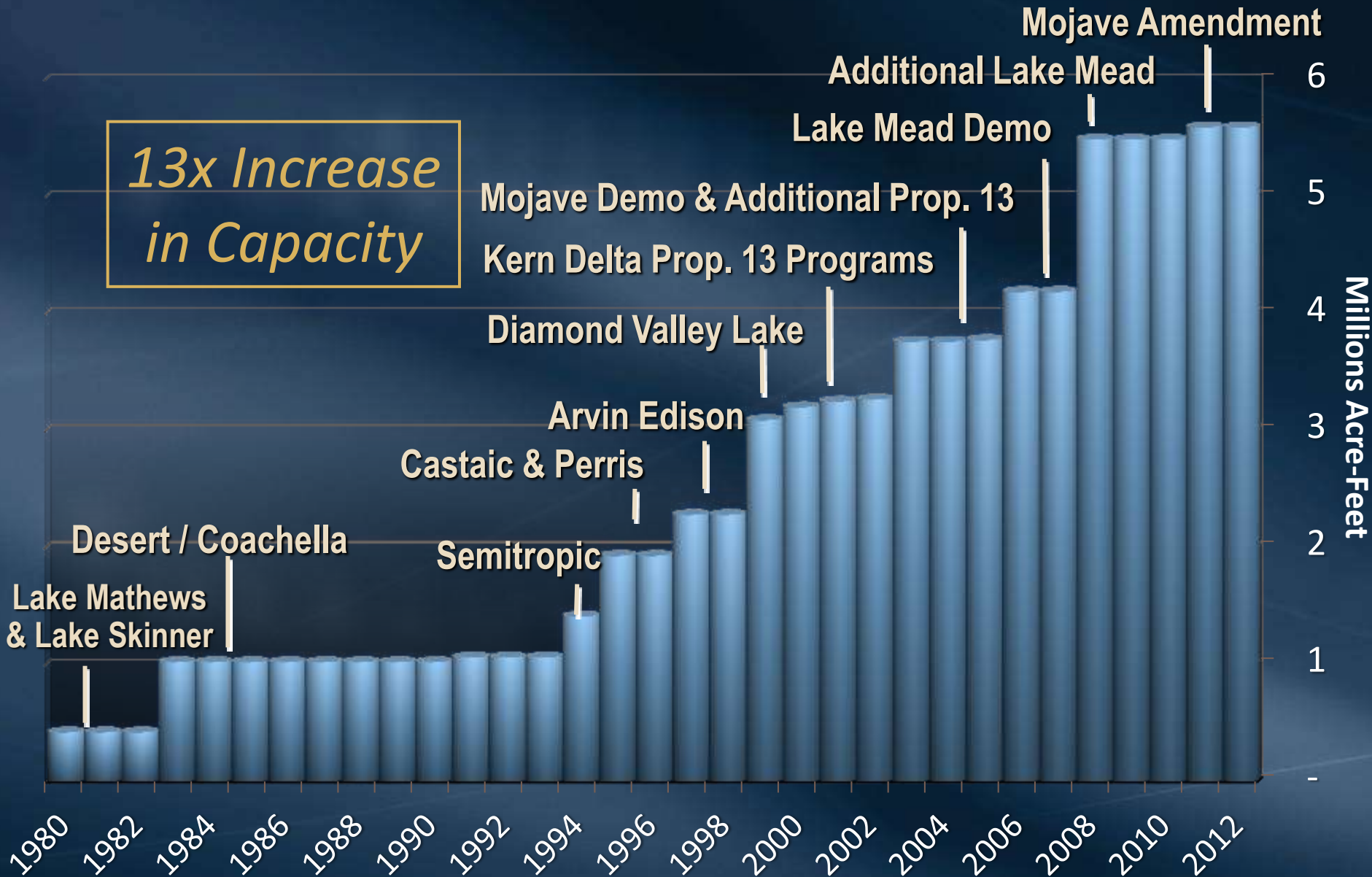


	Program	# of Projects	Deliveries to Date*	Incentives to Date*
■	Conservation	N/A	2,050,000	\$352M
●	Recycling	75	2,026,000	\$360M
■	Groundwater Recovery	24	719,000	\$127 M

*Through FY 2012/13

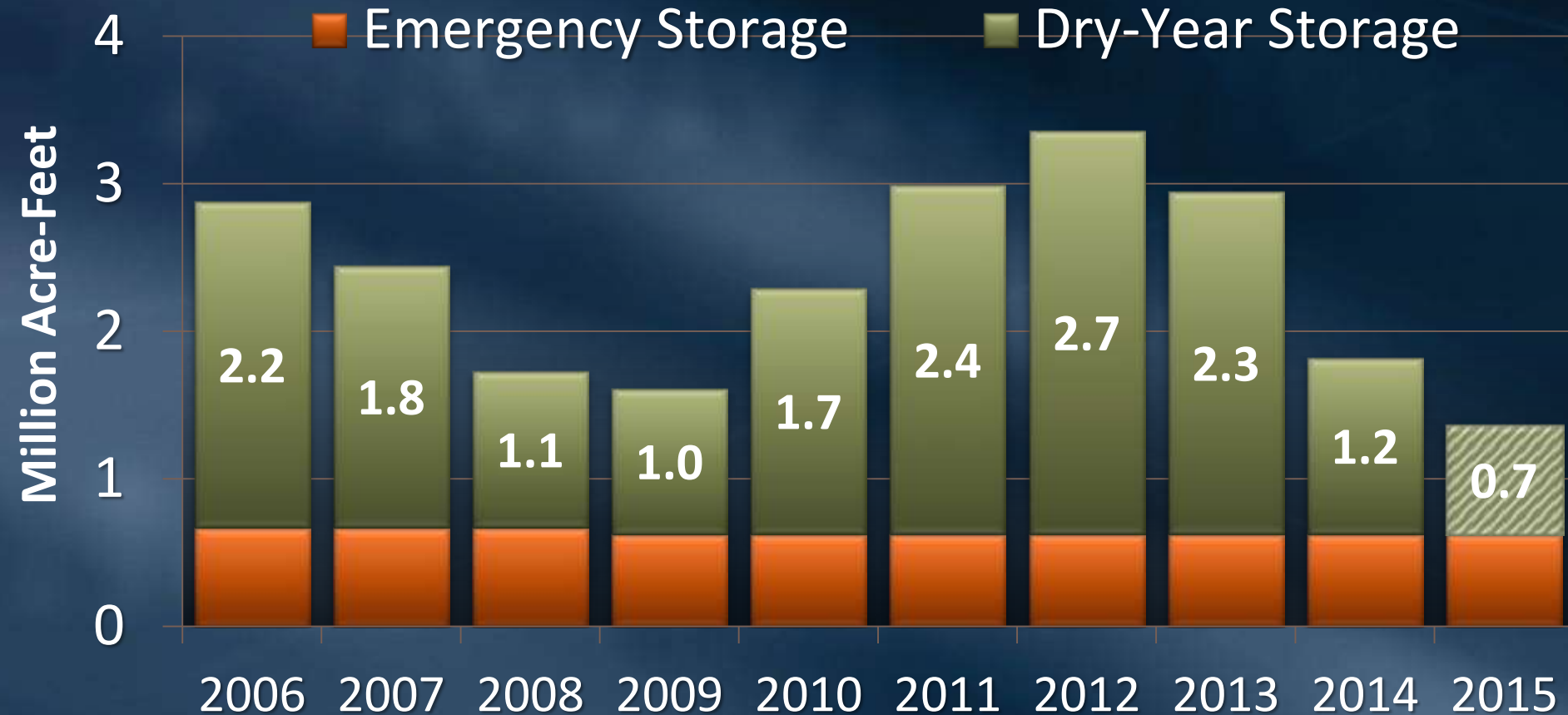
Metropolitan's Storage Capacity

*13x Increase
in Capacity*



Metropolitan Storage Reserves

End of Year Balances*



*Estimated actual storage balances, subject to change.

Regional Investments

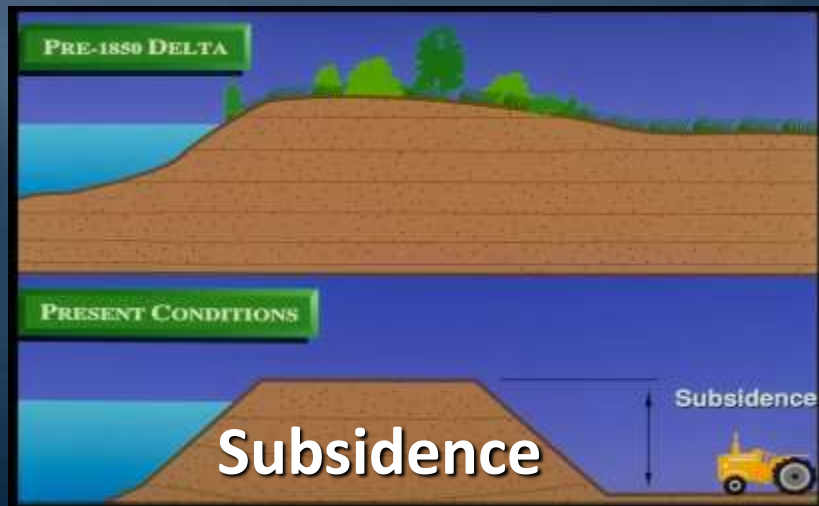
	Cost	Benefit
Diamond Valley Lake	\$2 billion	810 TAF of storage
Inland Feeder Project	\$1 billion	Access to SWP supplies
Conservation Programs	\$352 million	923,000 AF annually
Local Resources Program Incentives	\$487 million	2.7 MAF water produced
Treatment Plant Upgrades	\$2 billion	Flexibility to handle supply changes

Delta: Hub of California's Water Supply

- 25 million Californians
- Irrigation for much of the produce grown domestically
- 57 Islands and Tracts
- 700 miles of sloughs and channels
- Unique manmade topography threatened
 - Seismic
 - Sea-level rise
 - Subsidence



Key Delta Risks



Specific Actions Taken by Metropolitan



**15%
Reduction
in Member
Agency
Deliveries**

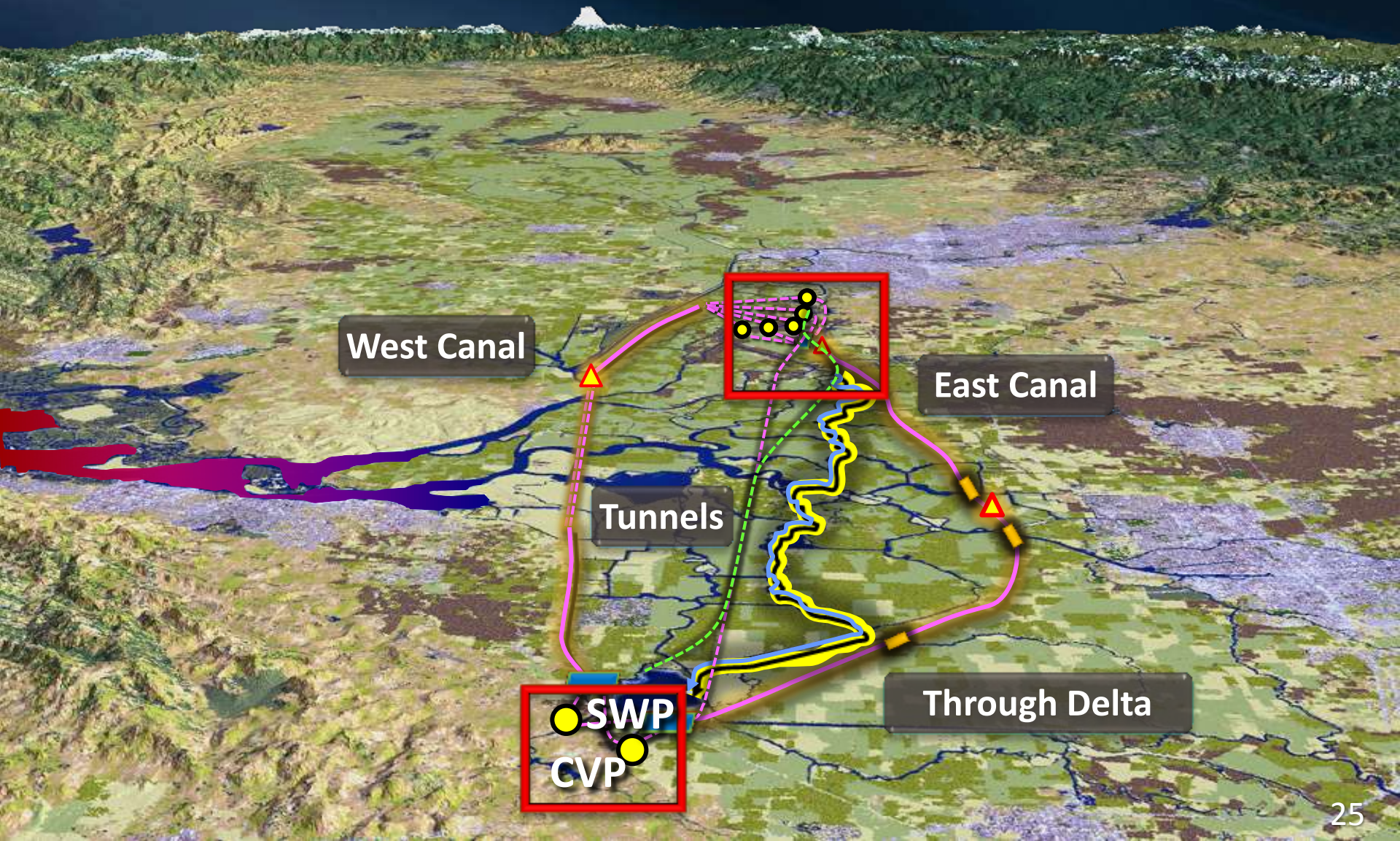
Conservation Budget Increased to:

\$ 450 M

Largest Conservation Program in the Nation

Bay Delta Conservation Plan

Conveyance Alignments



Summary

- Region is experiencing an historic 8-year drought
- Investments have allowed the region to avoid shortage cutbacks in recent years
- 2015 snowpack conditions show continued drought leading to specific drought actions
- Long-Term Investments Needed – Local expansion of recycling and desalination; Statewide upgrade of storage and delivery systems

